Hyland™

PACS Scan

PACS Scan, PACS Scan XDS, PACS Scan Film

User Help

DOC-PS6.1-UH-EN-REVA

Documentation Notice

Regulatory and compliance

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General warnings and precautions

To ensure patient safety and adhere to HIPAA Privacy Rule involving patient health information, the Healthcare provider shall assign an unique Accession Number and Medical Record Number (MRN) to identify individual patient's health record affiliated with the patient to prevent erroneous medical data and duplicate identification with other patients.

Symbols glossary

![Manufacturer symbol]	3082 - Manufacturer
![Date of Manufacture symbol]	2497 - Date of Manufacture
REF	2493 - Catalog number
SN	2498 - Serial number
![Consult IFU symbol]	1641 - Consult instructions for use: Indicates the need for the user to consult the instructions for use.
![Caution symbol]	0434A - Caution: Indicates the need for the user to consult the instructions for use for important information such as warnings and cautions.
![Patient number symbol]	2610 - Patient number: Indicates a unique number associated with an individual patient.
QTY	Quantity: Indicates the number of units.
![WEEE symbol]	Directive 2012/19/EU on waste electrical and electronic equipment (WEEE).

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About PACS Scan

PACS Scan is a software program that captures patient images, video, and demographics from DICOM and non-DICOM sources (such as paper, film, CDs, and other electronic media), associates the information with existing patient records, and sends the results to PACS/VNA.

Start PACS Scan as you would any Windows program. If a splash screen does not appear, contact a support representative. When you exit PACS Scan, the DICOM sending queue stops and all jobs current in the queue are saved. Queued jobs are automatically re-sent the next time you start PACS Scan.

Indications for use

PACS Scan is intended to be used by authorized staff to perform various operations on imaging studies before they are made available to other locations in the network. These operations include scanning documents and/ or film images, importing still or video images, importing DICOM images and confirming or correcting patient demographics.

PACS Scan is not labeled for diagnostic use.

Warnings, precautions and contraindications

The following is a list of general precautions that you must follow before using PACS Scan.

- Report any malfunction or security risks such as unauthorized access, modification, interference, and adverse and security incidents that occur in relation to PACS Scan to PACSgear Technical Support @community.hyland.com.

Paper Documents

Scan paper documents

You can scan paper documents such as pain sheets and send them to PACS/VNA. To adjust various scanning options such as automatic feed, color mode, and resolution, see "Paper Scanner Settings." To scan paper documents, do the following.

1. In the left pane, click **Scan**.

   > **Note:** If the Scan button in not visible, click **Settings** > **Buttons** and then select the button from one of the lists.

   The first time you scan a document for a patient, the Enter Patient Information dialog box appears before scanning begins (see "Enter patient information").

2. Enter patient information and click **Continue**.

   As you scan each document a thumbnail appears in the thumbnail list. At any time you can click a thumbnail to view and edit the corresponding document.

Scan documents in batches

If your paper documents contain barcodes with known accession or order numbers, you can scan them in batches. When in Batch mode, PACS Scan automatically looks up patient information, attaches the information to the documents, and sends them to PACS. To adjust settings, see "Batch Settings" under "Paper Scanner Settings." To scan documents in batches, do the following.

1. Clear the current patient by clicking the button (X) in the upper-right corner of the viewing area.
2. On the **Settings** menu, select **Batch Mode**.
3. Place all of the documents into the scanner feeder.

   Note: Ensure that each document has a barcode representing a valid accession or order number.

4. In the left pane, click **Batch**.

   As each document is scanned it is processed and sent automatically to PACS/VNA.

5. When finished scanning, verify that the documents were successfully sent.

   Note: Any document that could not be matched or whose barcode was not found appears in the left pane under Batch List, and must be processed manually.

6. If a document appears in the Batch list, do the following.
   1. Select the document.
   2. In the **Enter Patient Information** dialog box, enter demographics (see "Enter patient information").
   3. Click **Continue**.

      The media and demographics are sent to PACS/VNA.
   4. Repeat this procedure for all documents in the Batch list.

Films

Digitize films

Prerequisite Obtain a license for PACS Scan Film.

Note: PACS Scan Film and non-FDA governed territories

- PACS Scan Film and the VIDAR scanner are not supported in markets not under FDA Guidance for medical devices.
- PACS Scan Film licenses will be converted to PACS Scan licenses in version 6.0.1 and later releases.

You can digitize prior films and send the results to PACS/VNA. To adjust digitizing options such as calibration, digital mammography, and resolution, see "Film Digitizer Settings." To digitize a film, do the following.

1. On the **Settings** menu, ensure **Batch Mode** is not selected.
2. Place films in the digitizer feeder.
3. In PACS Scan, in the left pane, click **Film**.

> **Note:** The first time you digitize a film for a patient, the Enter Patient Information dialog box appears before digitizing begins (see "Enter patient information" for more details).

> **Note:** If the Film button is not visible even though a film digitizer is installed, click **Settings** > **Buttons**, and then select the button in one of the lists.

4. Enter the patient information and click **Continue**.

   As you digitize each film a thumbnail appears in the thumbnail list. At any time you can click a thumbnail to view and adjust the corresponding film. You can click **Film** repeatedly to digitize any additional films that are loaded for a single patient.

Segment films automatically

PACS Scan Film allows you to *segment* films--that is, to extract individual frames of cross-sectional films and display them as a stack or jitter-free cine loop. Additionally, PACS Scan Film offers a special feature called *Auto-Segmentation Technology* (AST) that segments films automatically. To adjust related settings, see "Film Digitizer Settings." To segment films, do the following.

1. On the **Settings** menu, select **Film Digitizer**, and double-click a modality in the list.
2. In the **Edit Modality** dialog box, select the **Segment** check box.
3. Optional. To send all non-segmented films as individual series, select the **One film per series** check box and click **OK**.
4. Digitize the films (see "Digitize films").

   After the last film has been digitized, auto-segmentation begins and continues until all films have been segmented. The results are displayed in the main window. If automatic segmentation fails, the process stops and the manual segmentation editor appears.

Segment films manually

The manual segmentation editor starts automatically if digitizing is complete and auto-segmentation fails, or if you right-click the image in the main viewing area and click **Resegment**. To segment films manually, do the following.

1. In the **Segment Editor** screen, under **Layouts**, select a layout from the **Columns & Rows** list.

   > **Note:** The values in the list come from the layouts.xml file in the config folder.

2. To adjust the layout overlay, drag the red lines. For greater precision, do the following.
   - Use the zoom buttons to make it easier to position the layout overlay
   - Click one of the corner buttons to zoom to the corresponding corner of the displayed film.
   - Click the center button to zoom out to full-screen view.
3. Click **Segment** to perform segmentation using the borders of the layout overlay.
4. Optional. To save changes to segmentation, click **Save Orig**.

View segmented films

After you segment a film, the top image in the stack appears in the main viewing area, and a thumbnail of the stack appears in the thumbnail list. To view the segmented films, do the following.

1. In the main viewing area, click **Stack**.

2. Point to the image and drag up and down or rotate the mouse wheel to scroll through the stacked segments.

Split a stack into series

You can split a stack into multiple series. You can split the stack as many times as there are images in the stack. To split a stack into series, do the following.

1. Move to the image in the stack where you want the split.
2. Right-click the stack and select **Spilt Series**.

Reorder films in a series

You can reorder films in a series after segmentation. To reorder films in a series, do the following.

1. In the right pane, right-click a series thumbnail and select **Reorder**.

   Note: The Reorder command is only available if you digitized multiple films.

2. At the bottom of the **Reordering Editor**, drag films to their correct positions in the film strip.
3. Click **OK**.

Configure digitizing of mammography films

 Prerequisite Obtain a license for PACS Scan Film.

PACS Scan Film for Mammography supports the DICOM standard for the digitizing of prior mammography films, and provides the required information that allows PACS/VNA to display mammography images optimally for radiologist workflow. To adjust related settings, see the Mammography section in "Film Digitizer Settings." To digitize mammography films, do the following.

1. On the **Settings** menu, select **Film Digitizer**.
2. In the **Film Digitizer** dialog box, select the **Enable DX Mammography Fields** check box.
3. Optional. Adjust one or more of the following settings.
   - To automatically identify image orientation based on the presence of an image marker, select the **Enable Automatic Marker Detection (AMD)** check box.
   - To render analog images with a digital "look and feel," select **Enable DCA**.
   - Under **Default M/G Window/Level**, enter a default window and level setting for the digitized mammography images.
   - Under **Match scanned film to FFDM spot size**, select the appropriate FFDM spot size.
4. Click **OK**.

Digitize mammography films

 Prerequisite Configure digitizing of mammography films.

To digitize mammography films, do the following.

1. On the main screen, in the list at the top of the right pane, select a description.

   Note: When an image is assigned a view description, the description is displayed under the thumbnail

on the right.

2. Digitize the mammography film using the same steps as for plain film.

Existing Image Files

Import non-DICOM media

You can import non-DICOM images, video, and documents and send them to PACS/VNA. To adjust related settings, see "Import Settings." To import non-DICOM media, perform the procedure below.

PACS Scan can import the following file types:

- .jpg
- .tiff
- .mpg
- .avi
- .png
- .bmp
- .pdf
- .gif

1. In the left pane, click **Import**.

   Note: If the Import button is not visible, click **Settings** > **Buttons**, and then select the button in one of the lists.

   The first time you import images or documents for a patient, the **Enter Patient Information** dialog box appears (see "Enter patient information" for more details).

2. Enter the patient information and click **Continue**.
3. In the dialog box, select the folder containing the media to import and click **OK**.
4. In the thumbnail selection dialog box, select one or more items to import.

   Note: You can select all items in the folder by clicking **Select All**, or select items individually by selecting their check boxes. To clear your selections click **Clear All**. To look in a different folder, click **Browse**.

5. Click **OK**.

   A thumbnail of each imported item appears in the right pane. You can import additional items for the same patient by clicking Import again.

Import a DICOM image and localize demographics

 Prerequisite In the CD Import Settings dialog box, under Mode, select either Send and Edit, or Both mode.

You can import DICOM images (such as from CDs or DVDs), localize the associated demographics for the target environment, and then send them to PACS/VNA. To import a DICOM image and localize demographics, do the following.

1. Click **CD Import**.

Note: If the CD Import button is not visible, click **Settings** > **Buttons**, and then select the button in one of the lists.

2. If the import source selection dialog box appears, select a source in and click **Continue**.

Note: This dialog box appears if you specified multiple import sources in the **CD Import Settings**.

3. In the **Select Patient from CD** dialog box, select patients to import from the list.

Note: You can select multiple patients by holding down the **Ctrl** key.

4. Optional. To view the images and reports for the selected patient, click **View**.
5. Click **Edit**.
6. In the **Localize Patient Information** dialog box, enter new values in the **Updated Value** column.

Note: You can type information directly, or click **Lookup** to fill in values from existing studies (see "Lookup during CD import"). To copy the information from the **Original Value** column, click **Copy**. To clear the **Updated Value** column and start over, click **Clear**.

7. To send the study to PACS/VNA, click **Import**.

Note: You can import multiple studies if needed. The status in the **Select Study to Import** table indicates whether the study is still being edited or has already been processed. You can select and edit each study in the list before clicking **Import**.

Import a DICOM image without localizing demographics

Prerequisite In the CD Import Settings dialog box, under Mode, select either Batch or Both mode.

You can import DICOM images, such as from CDs or DVDs, and send them to PACS/VNA while bypassing the Localize Patient Information dialog box. To import a DICOM image, do the following.

1. Click **CD Import**.

Note: If the CD Import button is not visible, click **Settings** > **Buttons**, and then select the button in one of the lists.

2. If the import source selection dialog box appears, select a source in and click **Continue**.

Note: This dialog box appears if you specified multiple import sources in the **CD Import Settings**.

3. In the **Select Patient from CD** dialog box, select patients to import from the list.

Note: You can select multiple patients by clicking on them while holding down the **Ctrl** key.

4. Optional. To view the images and reports for the selected patient, click **View**.
5. Click **Send All**.

Lookup during CD import

Prerequisite Set up one or more DICOM Worklist or query/retrieve providers on your network, and configure them in PACS Scan (see "DICOM Settings").

While importing DICOM images, you can update incoming demographics manually, or by looking up patient information from a worklist. To perform a lookup during CD import, do the following.

1. In the **Localize Patient Information** dialog box, in the **Worklist Source** list, select a patient lookup source.

    Note: If the Worklist Source list is not visible, you can skip this step.

2. Enter one or more lookup criteria in the **Updated Value** column.

    Note: In most fields you must enter the lookup criterion exactly as it appears in the study or the lookup fails. However for the fields marked "searchable" (with a yellow asterisk), you can enter one or more of the first characters. For example, to search for patients with last names starting with 'A,' in the **Last Name** field, type A.

3. Click **Lookup**.

    Note: If multiple matches are found, a search results selection dialog box appears. Click the desired patient and click **OK**.

4. Click **Import** to send the study to the selected DICOM destination.
5. Click **Exit**.

Print to PACS/VNA

When you install PACS Scan a virtual printer called "PacsSCAN" is added to your available printers in Windows. When using any program that supports printing in Windows (such as any Microsoft Office program), you can print documents or images directly to PACS/VNA. To adjust related settings, see "Virtual Printer Settings." To print to PACS/VNA, do the following.

1. Open the document or image to print in your application.
2. Click **File** > **Print**.
3. In the print dialog box, select "PacsSCAN" as the printer, and click **OK**.
    If PACS Scan is not open, it starts automatically.
4. Optional. To view or edit the image in PACS Scan prior to sending, click **Preview**.
5. In the **Edit Patient Information** dialog box, enter patient information and click **Send**.

Editing and Sending Media

Image and document editing tools

PACS Scan provides the following tools to edit an image, document, or electronic form before sending it to a PACS/VNA. The editing tools that are available depend on the item you are editing.

Tools

Tool	Usage	Description
Arrow	Form	Draws an arrow. Drag anywhere on the form from the arrow's start point to its

Tool	Usage	Description
	viewer, Snapshots	endpoint. You can reposition and resize arrows by dragging them or their handles. Right-click arrows to display a context menu for selecting their width and color.
Crop, Scissors	Film, Paper, Snapshots	Crops the image. Click **Crop** to enter Crop mode. Drag a crop area on the image. The Crop button changes to the Scissors button. Click **Scissors** to crop the image.
Delete	All	Removes the current image/page from the thumbnail list.
Draw	Form viewer, Snapshots	Draws a freehand line. Drag or use a stylus to draw anywhere on the image/document. When using this tool, line width and color selection buttons become available at the bottom of the screen. The default width and color are medium and black.
Ellipse tool	Form viewer	Draws an Ellipse. Click to place an ellipse on the form (initially, the ellipse is a circle). To move the ellipse, drag any point along its circumference. Ellipses do not have handles, but you can transform and resize them by dragging the corners and middles of their colored bounding boxes. To remove an ellipse from the form, right-click it and click Delete Object.
Eraser	Form viewer, Snapshots	Turns off drawing. Drag over previously drawn lines to erase them.
Flip Left/Right	Film, Paper	Flips the image horizontally.
Flip Top/Bottom	Film, Paper	Flips the image vertically.
Image tool	Form viewer, Snapshots	Places graphic images on an image or document. Click the tool to display the image list, and then select an image and click anywhere on the form to place it. To manipulate a placed image, click to display its eight handles. Resize by dragging any of the four green corner handles. Rotate by dragging any of the blue square handles. Right-click to mirror or delete the image.
Invert	Film, Paper	Swaps black and white values in grayscale paper or film images.
Open/Close panel	All	Opens/closes the left panel. Click '<<' to close, or '>>' to show the left panel. This feature is useful on vertical displays. Loading a new form automatically closes the left panel.
Print	Form viewer, Snapshots	Prints the image/document to the selected printer.

Tool	Usage	Description
Reset	All	Returns the image/document to its original size and orientation, and undoes all rotate and crop operations.
Rotate Left	Film, Paper	Rotates the entire document counter-clockwise 90 degrees.
Rotate Right	Film, Paper, Snapshots	Rotates the entire document clockwise 90 degrees.
Selection tool	Form viewer, Snapshots	Selects or manipulates objects and controls. Turns off drawing.
Stack	Film stack	Scrolls through the images in a multi-image series or stack. Click Stack, then drag up and down on the stack to move through the images.
Sticky Note	Form viewer, Snapshots	Places a "sticky note" on the form. Click inside the sticky note with the selection tool to type text or edit existing text. To resize the note, point to the note to display its handles, then drag any of the handles. You can also right-click a note to display a context menu that allows you to move, edit, or delete it, change its font size, font color, or background color, or specify to "burn the background" (keep the background color of the note on the actual form).
Window/Level	Film	Changes the brightness and contrast of the image. Click Window/Level, then drag the pointer up and down over the image to change the level values. Drag left and right to change the window values.

Other Buttons

Edit Patient Information

Click the **Edit** button to edit patient information after scanning, then click to accept your edits.

Close Patient

Click the **X** button to close the current patient and delete all of the scanned images.

Send media

Prerequisite Configure destination devices in the DICOM settings. If you configured multiple destinations at send time, select one from the list located just below the Send button.

You can send all acquired images, documents, videos, films, or other media to a PACS, VNA, or other storage device. To send media, do the following.

1. Acquire media for a patient.

    Note: See procedures such as "Scan a paper document," "Digitize films," or "Import a DICOM image."

2. Click **Send**.

Note: During the sending process, you can start acquiring media for the next patient. An entry appears in the send queue (main screen, left pane) that contains the patient's name and send status.

3. Optional. Manage jobs in the Send queue as follows.
   - To clear all of the entries from the send queue, click **Clear**.
   - Click **Restart** on the send queue to restart all failed jobs.

   Note: After you clear a failed job, it can no longer be restarted. When exiting PACS Scan, the send queue stops and saves all jobs in the queue. When you restart PACS Scan, the jobs are restarted.

Patient Information and Electronic Forms

Enter patient information

You can attach patient information (demographics) to media that you acquire. There are several ways to attach patient information: 1) automatically through barcode scanning (see "Scan in batches"); 2) copying the information from the previously opened patient; 3) looking up information from a worklist, or 4) by entering the patient information manually. To enter patient information, do the following.

1. Acquire media for a patient (for example, by clicking **Scan**).

   Note: If a patient is already open in the main screen, you can click **Edit** in the upper right hand corner of the program window.

2. In the **Enter Patient Information** dialog box, do one of the following.
   - To copy information from the previously opened patient, click **Last Patient**.
   - To lookup information from a worklist, click **Lookup** (see "Look up patient information").
   - Enter information manually. Most fields are self-explanatory, but note the following.
   - **Study Date**. In this box, click to select the month, date, or year. Use the UP and DOWN arrow keys on the keyboard to increment or decrement the selected item, and the RIGHT and LEFT keys to move between items. You can also click the list box arrow to display a calendar for entering the date. You can click the month in the calendar's title to display a context menu of months. Clicking the year reveals a selection box for entering a year.
   - **Study Time**. Click to select the hour, minutes, or period (AM/PM), then use the keyboard number pad, arrow keys, or on-screen arrow buttons to change the values.
   - **Description**. Type arbitrary text in the box, or select a description from the list if descriptions were added in the Defaults dialog box.
   - **[Label 1]** and **[Label 2]**. Type arbitrary text in the boxes. The boxes are only available if they were added in the Defaults dialog box, and their labels match what you entered in that dialog box.
3. Click **Continue**.

Look up patient information

Prerequisite On the **Settings** menu, select **DICOM** and select the **Enable Patient Lookup** check box.

To look up patient information from a worklist or other source, do the following.

1. In the **Enter Patient Information** dialog box, enter all or part of a field as a search criterion.

   Note: You do not have to enter an exact match for a particular field. For example, if you enter `w` in the

last name box, PACS Scan finds all patients whose last names begin with "W."

2. Click **Lookup** or press **Enter**.

    Note: If you configured more than one lookup source, in the **Worklist** list, select a source before clicking Lookup. You can only search one lookup source at a time. If one exact match is found, PACS Scan fills in all of the available fields automatically.

3. If more than one patient record is found, in the **Select Patient** dialog box, select the correct patient and click **OK**.

4. In the **Enter Patient Information** dialog box, click **Continue** or click **Clear** to start over.

    Note: The date format used in the dialog box depends on the Windows regional settings on your PC.

    Note: When you enter patient information by looking it up, only the Description and Modality fields are available for editing.

Fill in an electronic form

You can add customized information to a study by filing in an electronic form. To create and edit forms, see "Form Settings." To fill in a form, do the following.

1. In the left pane, click **Form**.

    Note: If the Form button is not visible, click **Settings** > **Buttons**, and then select the button from one of the lists.

    The first time you load a form for a patient, the **Enter Patient Information** dialog box appears. Enter the patient information (see "Enter patient information").

2. Click **Continue**.

3. In the list, select a form and click **OK**.

4. Fill in the form.

    Note: PACS Scan uses the previously entered patient/study information to fill in any corresponding fields that may have been included on the form. You can click Form again to import additional forms for the same patient. If needed, you can modify the form using the tools in the vertical tool bar (see Editing Images and Documents for instructions). If a form has multiple pages, you can use the page selection buttons to scroll through them, or press the Page Up or Page Down key on the keyboard.

5. Click **Send**.

XDS Repositories

Send media to an XDS repository

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Prerequisite License PACS Scan for XDS. Add an XDS source (see "DICOM Settings"), and then configure XDS settings (see "XDS Settings").

You can send scanned documents, virtually printed images, imported JPEGs, and MPEG files to an XDS repository. CD-imported images and digitized film are not supported at this time. To send media to an XDS repository, do the following.

1. In the left pane, in the list under the buttons, select an XDS destination.

    Note: If a patient is already open and a DICOM destination is selected, you must finish sending or close the patient before selecting an XDS destination.

2. Start acquiring media by clicking **Scan** or **Import**, or by virtually printing to PACS Scan.
    The **Enter Patient Information** dialog box appears with any XDS fields that were enabled.

    Note: The Body Part and Affinity ID fields are unavailable. If using a PDQ query, the resultant affinity ID appears in the Affinity ID field.

3. Enter patient information and XDS fields as necessary, and then click **Continue**.

    Note: If enabled, you can use the Lookup button to search a PDQ server for patient information. Note that this is a separate server from any DICOM lookup sources you may have also configured. When performing a PDQ query, the following fields accept wildcards: *MRN*, *Patient Last/First Name*, *DOB*, and *Sex*.

4. When you have acquired all media, click **Send**.

Stream to an XDS repository

You can stream large studies to an XDS repository to avoid data size limits. If you installed PACS Scan on the same system as the XDS repository, you can use a named pipe for faster streaming. To stream studies, do the following.

1. Open the *xdssettings.xml* file in a text file editor such as Notepad.

    Note: The default directory for this file is *C:\Program Files\Pacsgear\PacsScan\config\.*

2. Next to the `<RepositoryID>`, `<AuthorEmail>`, and `<EventCode>` tags, type the appropriate information.
3. Save and close the file.
4. On the **Settings** menu, select **XDS Settings**.
5. In the **XDS Settings** dialog box, in the **URL** box, do one of the following.
    - To stream to a different system, type `net.tcp://`[web service address]. For example: `net.tcp://localhost/XDS/Repository`

- To stream to the same system, type `net.pipe://`[web service address]. For example, `net.pipe://localhost/XDS/Repository`

6. Click **OK**.

7. Send the study to the XDS repository by following the steps in "Send to an XDS repository."

   PACS Scan streams the data.

Settings

Paper Scanner Settings

Paper Scanner Settings

The items below can be configured from the Paper Scanner Settings dialog box. To open the dialog box, click **Settings** > **Paper Scanner**.

Scan settings

Enable Auto Feeder

Select to scan multiple documents from a sheet feeder. If your scanner does not support a sheet feeder, clear this check box.

Enable Auto Invert

Select to invert black and white channels of scanned paper documents. Black text on white background will appear as white text on black background, and vice versa.

Enable Dual Sided Scanning

Select to scan the front and back sides of a single document at the same time. If your scanner does not support dual sided scanning, clear this check box. Note: If you select Enable Dual Sided Scanning, you must also select Enable Auto Feeder.

Resolution

Enter the horizontal and vertical resolution in dots per inch.

Height

Enter the maximum height of the paper to be scanned.

Enable Blank Page Removal

Select to allow removal of scanned blank pages.

Sensitivity

Move the slider toward High to increase the rejection of pages with lighter text.

Color Mode

Select grayscale or color image scanning.

Grayscale settings

Window/Level

Enter the window and level values (only if Grayscale is selected).

Scan settings

Enable Scanner User Interface

Some scanners provide finer control over the scanner's parameters. Select this check box to open the scanner's advanced settings each time you click Scan. This feature adds extra steps to the scanning process and is intended only for advanced users. Selecting this feature is recommended when connecting to a digital camera.

TWAIN Source

Click **Change** to change the scanner used by PACS Scan. Note that changing your computer's default scanner in other applications may also change the default scanner used by PACS Scan.

JPEG Export

Enable JPEG Export

Select to allow EMR, RIS, and other systems to receive and process scanned documents. This feature copies each scanned document or electronic form to the specified directory as a JPEG file, and creates an index file that contains information about the patient, study, and related JPEG files that were exported.

Settings

Click to specify the JPEG export directory, file name formats, and index file contents. See the **JPEG Export Settings** dialog box below.

Batch settings

If your paper documents have barcodes, you can use batch scanning to automatically look up patient information by accession number and send the documents directly to PACS. See also Batch Scanning.

Validate Bar Code Length

Select to search for a barcode of a specified length. This feature can be used to select the correct barcode when there is more than one barcode per page.

Length

Specify the length of the desired barcode.

JPEG Export Settings Dialog Box

If you export images as JPEG files, enter the settings described below. Note that you can use the file name fields described on the next page for automatic file naming.

Export Folder

The save destination for JPEG files.

Image File Name

The file name format for exported JPEG files.

Index File Name

>   The file name format for the index file (.xml) sent with the exported JPEG files. Index files contain information that allows use of the image by non-DICOM applications.

Index Template File

>   The location of the index template files.

File name fields

File name fields let you automatically create unique image and index file names for each JPEG export operation. When you export a file, PACS Scan substitutes the fields with the corresponding text from the patient/study. The following fields are available.

<%patientid%>	Patient ID
<%accession%>	Accession number
<%lastname%>	Patient's last name
<%firstname%>	Patient's first name
<%middlename%>	Patient's middle name
<%sex%>	Patient's sex
<%studyuid%>	DICOM study UID
<%studydate%>	Study date (yyyymmdd), the date format may vary depending on the regional settings of Windows
<%studytime%>	Study time (hhmmss)
<%studydescription%>	Study description
<%studyid%>	Study ID
<%bodypart%>	Body part
<%modality%>	Modality
<%msstamp%>	Time stamp (milliseconds)
<%imgno%>	Image number

Index files

When creating the index file, you can repeat portions of the template file if there is more than one image. The file name fields listed below cause the template to be repeated. Note that these strings are removed from the output file. A sample template file is stored in the PACS Scan application folder as *...templates\sample_jpg_ header.xml*.

<%begin_image%>

Starts the repeating section for images

<%end_image%>

Ends the repeating section for images

Film Digitizer Settings

Film Digitizer Settings

1. Click **Settings** > **Film Digitizer** to open the **Film Digitizer** dialog box.
2. Enter the settings described below and click **OK**.

Modality settings

To edit the settings for each modality, select a modality and then click **Edit** (or double-click the modality). The **Edit Modality** dialog box appears. You can configure the following items in the **Edit Modality**dialog box.

One film per series

Select to send each digitized film as an individual series.

Segment

Select to enable Auto-segmentation Technology (AST) to create image stacks from cross-sectional film (see also "Segmenting Films").

Bits Per Pixel

Select the number of gray levels per pixel. 12-bit pixels provide 4096 gray levels, and 8-bit pixels provide 256 gray levels. Use 12 bits for most applications.

Resolution

Select the horizontal and vertical resolution in dots per inch.

Maximum Height (Inches)

Enter the maximum height of the film in inches. You can scan long bone studies by increasing this value.

Enable Description List

Select to assign predefined series descriptions to each image. Click **Edit List** to modify these descriptions.

Mammography

Enable DX Mammography Fields

Select to send mammography images to PACS using the DICOM Digital Mammography standard. When selected, you must select an orientation label for each digitized mammography image. The orientation label is used to enable mammography hanging protocols.

Enable Automatic Marker Detection

Select to automatically identify image orientation based on the presence of an image marker.

When you select the **Enable Automatic Marker Detection** check box, confirm that the correct orientation label has been selected prior to sending. You can override the automatic selection by clicking the pull-down menu and selecting a different orientation.

Enable DCA

The dynamic contrast algorithm (DCA) is a proprietary image processing algorithm that can be used to enhance digitized film images, resulting in a "digital look and feel" for easier comparison with true digital images. The algorithm has three levels of enhancement: Low, Medium, and High. When selected, the level of DCA enhancement is applied to all mammography images and does not change when a new user logs on. If you would like to use the dynamic contrast algorithm function, select the Enable DCA check box and then select High, Medium, or Low from the list.

Default MG Window/Level

You can enter default window and level settings for digitized mammography images. If none are specified, the default window/level settings for all images are used (see Default Window/Level below).

Match scanned film to FFDM spot size

While some mammography workstations automatically resize digitized mammography images when displayed, some PACS workstations do not. To compensate, users can enable the "Match digitized film spot size to FFDM spot size" feature. When a spot size is selected, PACS Scan automatically resizes digitized mammography images before they are sent to PACS, making digitized mammograms and FFDM images approximately the same size. *Spot size* refers to the resolution of each pixel, measured in microns (µm). The FFDM spot size is determined by the image detector and varies by vendor.

Typical spot sizes

50: Fuji FCRm

70: Hologic Selenia, Siemens MAMMOMAT

100: GE Senographe

Note: This list is not comprehensive. Verify the spot size in your FFDM documentation before using this feature.

Digitized mammography film is not labeled for primary diagnostic use.

Scanner Settings

Enable Auto Feeder

Select to digitize multiple films from a sheet feeder (if supported).

Load Film Right Side Up

Select to load the film into the feeder as if you were looking at it on a light box.

Load Film Upside Down

Select to load the film top-first into the feeder.

Unload

Click to force the digitizer to unload a film.

Test Scanner

Click to test the connectivity from PACS Scan to the digitizer.

Batch Settings

Enable Batch Scanning

Select to enable batch digitizing of films.

Copy Settings

Bits Per Pixel

Select the number of gray levels per pixel. 12-bit pixels provide 4096 gray levels, and 8-bit pixels provide 256 gray levels. Use 12 bits for most applications.

Scan Resolution (DPI)

Select the horizontal and vertical digitizing resolution in dots per inch.

Maximum Height (Inches)

Enter the maximum image height for the digitizer. You can copy long bone studies by increasing this value.

Calibration

This screen offers three modes of digitizer calibration. See the digitizer manufacturer's documentation for more information.

Measurements

Send measurements to PACS

Indicates whether image height and width are sent to PACS. Note that image measurements are approximations only.

Default Window/Level

Window/Level

These are the default window and level settings to be used for all non-mammogram images. If no settings are entered here, PACS Scan defaults to Window = 2495; Level = 2800.

Form Settings

Form Settings

Electronic forms ("forms") are documents used to attach information to a study. This section describes creating new forms and editing existing forms. For information on viewing, filling in, and sending forms, see "Filling In Electronic Forms." Forms consist of a background image onto which you can add controls such as text boxes, buttons, menus, lists, input boxes, and other tools for inputting new information.

Adding and Editing Forms

To begin adding or editing forms, click **Settings** > **Form Settings**. The **Form Settings** dialog box appears. The following settings are available in the **Form Settings** dialog box.

Forms Location

The parent folder where forms and/or subfolders containing forms are saved.

Image Folder

The folder containing images that can be placed on forms using the Picture tool. This box is synchronized to the Image Folder box in the Import Settings dialog box.

Auto Invert

Inverts the black and white channels of the form (black text on white background appears as white text on black background, and vice versa).

Convert to Grayscale

Converts a form from color to grayscale.

Add

Opens the Form Editor.

Edit

Opens the Form Editor along with the form currently selected.

Remove

Permanently deletes the selected form.

Refresh

Reloads the list of forms located in the current folder.

Default Note Text Size

Sets the default font size for sticky notes.

Enable JPEG Export

Select to allow EMR, RIS, and other systems to receive and process electronic forms. This feature copies each electronic form to the specified directory as a JPEG file, and creates an index file that contains information about the patient, study, and related JPEG files that were exported. For details, see JPEG Export under Paper Scanner Settings.

Form Editor

The form editor menu commands can also be accessed by the buttons on the tool bar (see "Toolbar").

File Menu

Save

Saves the current form, and prompts you before overwriting an existing form.

Scan

Scans background images from the currently configured TWAIN source to be used as the background image of the form.

Import

Selects a TIFF or JPEG image file as a background image for the form. If the image contains multiple pages, each image will appear as a separate page in the form.

Replace Background

Selects a new TIFF or JPEG file to replace the current background image of the form.

Exit

Closes the Form Editor.

Tools Menu

You can select the following tools from the Tools menu.

Control

Changes between creation or selection of controls depending on the current item in the control list.

Eraser

Selects the eraser tool to erase parts of the background image.

Rotate

Selects the rotation tool to rotate the background image.

Align

Lefts

Aligns the left edges of selected controls.

Rights

Aligns the right edges of selected controls.

Centers

Aligns the horizontal centers of selected controls.

Tops

Aligns the top edges of selected controls.

Middles

Aligns the vertical middles of selected controls.

Bottoms

Aligns the bottom edges of selected controls.

Make Same Size

Width

Makes the widths of selected controls equal.

Height

Makes the heights of selected controls equal.

Both

Makes both the widths and heights of selected controls equal.

Set Tabs

Automatically sets the tab order for text boxes and check boxes on the current page to: "from the upper left to the lower right of the screen."

Delete Page

Deletes the current page and its controls from the form.

Rotate Page

Rotate 90 Degrees

Rotates the background image clockwise 90 degrees.

Rotate 180 Degrees

Rotates the background image clockwise 180 degrees.

Rotate 270 Degrees

Rotates the background image clockwise 270 degrees.

Toolbar

Many of the Tools menu options have shortcut buttons on the toolbar.

Save Form

Shortcut for File > Save.

Import Background Image

Shortcut for File > Import.

Scan Background Image

Shortcut for File > Scan.

Edit Mode

Changes to Edit mode for creating or manipulating controls on the form.

View Mode

Changes to View mode for previewing your form.

Cut Control

Cuts currently selected controls and places them on the clipboard.

Copy Control

Copies the currently selected controls to the clipboard.

Paste Control

Pastes any controls from the clipboard onto the current page of the form.

Rotate Background

For 90 degree rotations, click **Tools** > **Rotate**.

Eraser

Erases portions of the background image and removes unneeded lines or blemishes that occurred during scanning. To undo an erasing operation, right-click the background image and click **Clear**.

Control Menu

Use the Control menu to select a tool for the Control button. Once a tool is selected, you can drag an outline on the form to create a control, or use the selection tool to move or resize the control by dragging the control itself, its boundary box, or its handles. The tools available are as follows:

Menu Selection	Control Button
Selection	Selection Tool
Text Field	Text Box Tool
List	List Tool
Check Box	Check Box Tool
Numeric	Numeric Box Tool

Selecting Controls

Click **Selection** on the Control menu, and then click to select the desired control. To select multiple controls, hold down the **Ctrl** key while selecting, or drag a lasso around the controls.

Control Properties

You can view and edit properties of any control by selecting **Properties** in its context menu. You can also select multiple controls and edit them as a group, but the options available depend on how many controls you have selected and their respective types. If multiple controls have different values for the same property (such as two controls having a different background color), the corresponding field in the dialog box will be dimmed. Once the property value is changed, the new value applies to all controls and is updated in the property sheet.

General Properties

The General tab contains the following items.

Name

Type a name for the control. This name is displayed when the control is placed on the form, and is used by the program when displaying error messages related to the control.

Text

Name, Color, Size

The font, color, and size of text associated with the control.

Send to VR System

This option is only available if PACS Scan is licensed for use with a voice recognition system. When you select this check box, the Name box becomes a list containing the field names from the dictionary file specified in the **Form Settings** dialog box. When entering or selecting information in the text box or list on the PACS Scan electronic form, that information will be matched to the field selected here and sent to the voice recognition system.

Retrieve from VR System

This option is only available if PACS Scan is licensed for use with a voice recognition system. When you select this check box, the text box on the form will be filled in with information from the voice recognition system. This option is not available for lists.

Background

Save to Final Image

Select to include the background color in the final image when the form is sent to PACS. Clear to exclude the background color when sending to PACS.

Color

The color of the background for the control (not for the overall form). Useful for highlighting the boundaries of a text box, for example.

Transparency [slider]

Adjusts the transparency of the background color of the control. When transparent, items on the form's background are visible through the control.

Other

Tab Order

The tab order of the control. You can set the tab order for all controls automatically by clicking **Tools** > **Set Tabs**.

Hide On Tablet PC

Select to hide the control when viewing on a tablet PC.

Options Properties

The information displayed on the Options tab depends on the currently selected control, and can include the following.

Sorted

Select the **Sorted** check box to sort the list alphabetically. If cleared, the values are displayed in the order that they appear on the list. Click the arrow buttons to rearrange the order of the list.

Required

Select to indicate a required field.

Value

Shows the items that the list will contain. To add a new item to the list, enter an item in the **Add** box and click **Add**.

Default

Select a list item and click the button to designate it as the default item.

Remove

Removes the currently selected item from the Item list.

Text Box Options

Multiline

Select to allow carriage returns and enable word wrapping in the text box.

Required

Select to indicate a required field.

Border

Select to display a border around the text box.

Max Characters

Enter the maximum number of characters that can be entered into the text box.

Default Value

The contents of this field will be automatically entered into the text box when the form is loaded, unless the field is filled in by the Auto Fill function (see Auto Fill Properties below).

Check Box Options

Check boxes have no user-changeable options.

Auto Fill Properties

The Auto Fill function fills in text boxes on the form automatically using information from the **Enter Patient Information** dialog box. Select the type of information to fill into the text box.

Control Position Properties

The Position tab shows the size and location of the current control. Change these values for more precise sizing and placement of the control.

Numeric Control Options

The numeric control creates a spin box for entering numbers. In the Options tab, set the range of numbers in the Min and Max box, the initially displayed value in the Default box, and by what amount numbers increase or decrease in the Step box.

Keyboard Commands

Delete

Deletes any selected controls from the form

Ctrl-X (cut)

Cuts any selected controls and places them on the clipboard

Ctrl-C (copy)

Copies any selected controls to the clipboard

Ctrl-V (paste)

Pastes the controls from the clipboard onto the current page of the form

Page Up/Down

Moves to the previous/next page

CD Import Settings

CD Import Settings

Configure CD import settings before importing studies from a DICOM CD.

Procedure

1. To configure CD Import, click **Settings** > **CD Import**.
2. Enter the settings described below and click **OK**.

Import Source

To add a CD import source folder, click **New**, and then enter a name for the data source. Next, browse for and enter one or more drives/folders where the images are located and click **OK**.

CD Import Mode

Select a CD import mode of **Edit and Send Mode**, **Batch Mode**, or **Both**.

Edit and Send

Best for importing individual studies. In this mode, the user is prompted to update patient information before sending to PACS.

Batch

Fastest mode for importing multiple studies when patient information does not need to be updated (updating not allowed in this mode).

Both

In this mode, you can choose to send all studies or to edit them.

Field Settings

You can enter and edit various field settings to control how patient information is handled in the **Localize Patient Information** dialog box.

Field

These are the patient information fields that appear in the **Localize Patient Information** dialog box. You can add up to three additional fields by selecting them from the lists (located below the Sex field). To modify the options in the list, click the **Advanced** button.

Fill From

Select **Worklist** to automatically fill in the field from a DICOM worklist. Select **Use Original** to automatically copy the original value. Select **Use Default** to automatically fill in the field with the value you enter in the Default Value box.

Default Value

If Use Default is selected in the Fill From list, you can enter a default value here. This value will be automatically copied to the Updated Value field.

Edit and Send Import Options

Save Original DICOM Fields

Select to save all original DICOM fields along with the updated patient information. If selected, all original data will be saved to the DICOM Original Attributes tag.

Study UID

Select to create new study UIDs, use the originals, or use ones from a worklist.

Do not import structured reports

Select to prevent importing of structured reports.

Do not import presentation states

Select to prevent importing of image presentation states.

Launch PacsSCAN when DICOM media is inserted

Select to start PACS Scan automatically whenever a DICOM CD or other media is inserted into the PC.

Use AE Title

Select to force the imported media to use the AE title entered in the box to the right.

Patient ID Prefix

Select the check box, then enter a prefix to be added to all imported patient ID's. This can be useful for preventing duplication errors in case an identical patient ID already exists in your PACS.

Accession Prefix

Same as the patient ID prefix, except that the prefix is added to the accession number.

Gamma Correction

Gamma Correction is used to optimize the image display on the PACS Scan monitor. LCD monitors will require a different value than CRT monitors.

1. Click **Settings** > **Gamma Correction**.
2. Adjust the slider on the **Gamma Correction** dialog box to change the gamma value. Use a value of 1.0 for most LCD-based displays.

DICOM Settings

Configure DICOM Settings

You must configure your PACS, VNA, and other DICOM devices for use with PACS Scan.

1. Click **Settings** > **DICOM** to open the **DICOM Settings** dialog box.
2. Enter the settings described below and click **OK**.

    PacsSCAN AE Title: The DICOM Application Entity Title (device name) used by PACS Scan when communicating to other devices via DICOM (DICOM Storage SCU).

Store/Print Settings

Devices

A list of DICOM devices (DICOM archive, PACS station, VNA, DICOM printer, etc.).

Test

Click to perform a DICOM association test with the selected DICOM device.

Add

Click to add a new DICOM device to the list. See "Adding/Editing Store/Print Devices" below.

Edit

Click to edit the selected DICOM device. See "Adding/Editing Store/Print Devices" below.

Remove

Click to remove the selected DICOM device from the list.

Force user to select destination

When this check box is selected, a message and list appear when you try to send an image while multiple store/print devices are configured in the **DICOM settings** dialog box. If this check box is not selected, the image will be automatically sent to the first device in the list.

Aliases / Group multiple store destinations

Two or more devices (*destination AEs*) can be assigned to a single destination group, called an *alias*. For example, you could create a group containing a local PACS system and an off-site archive under the alias "Main recipients," and then send studies to both AEs in one step. To create an alias, click **Add**, type a name for the alias, and then select destination groups using the corresponding buttons.

Adding/Editing Store/Print Devices

This dialog box appears when you click **Add** or **Edit** under **Devices** in the **DICOM Settings**dialog box. Enter the settings described below and click **OK**.

Settings

Name

Enter the name of the device to add/edit.

AE Title

Enter an AE title for the device.

Port

Enter the port used by the device.

Action

Select whether to store or print data to the device. If you select Store, enter the settings described under Compression Settings below. If you select Print, enter the settings described in Printer Settings below.

IP Address

Enter the IP address of the device.

HL7 Send

Disabled

Do not send HL7 update messages.

All Studies

Send HL7 update messages for all studies, including studies with hand-typed patient demographics.

Patient Queries

Send HL7 update messages only for those studies that do not have hand-typed demographics, e.g., patient lookup through DICOM MWL, archive, or external launch by an EHR/EMR.

Settings

Click Settings to enter detailed HL7 settings.

Destination 1/2

Enable

Select to enable destination 1 or 2.

Name

Enter a name for the destination.

IP Address

Enter the IP address of the destination.

Port

Enter the port of the destination.

Template

Enter or browse for the path to the template.

HL7 Only

Select to create an HL7-only destination that does not require you to enter additional DICOM settings.

Compression

PACS Scan includes compression to support faster image transmission and decreased storage requirements. You can adjust compression settings as follows.

Documents

Type

Select **None**, **JPEG 2000 Lossless**, **JPEG 2000 Lossy**, or **JPEG Lossy**.

Compression Ratio

If you select lossy above, you can select a ratio of **5 to 1**, **10 to 1**, or **25 to 1**.

Encapsulate Imported PDF Files

Select to optimize standard PDF files for exchange in a DICOM imaging environment.

Images

Type

Select **None**, **JPEG 2000 Lossless**, or **JPEG Lossy**.

Convert to Grayscale

Select to automatically convert color images to grayscale.

Printer Settings

If Print is selected in the Action list, the following settings become available.

Lookup Table

Enable

Select to have the printer reference a specific LUT (lookup table) for consistency between display and print.

Select

Click to browse for and select an LUT.

Optical Density

Min/Max

Enter the minimum and maximum values of optical density to which pixel values can be mapped. Adjust this setting according to the print medium.

Scaling

Magnification

None

Select to print images without magnification.

Maintain Original Size

Select to ensure that the original image dimensions are maintained when sent to the printer.

Cubic

Select to magnify the image using a cubic interpolation algorithm. This method usually yields the highest image quality, but can be slower than bilinear scaling.

Bilinear

Select to magnify the image using a bilinear interpolation algorithm. This method may not yield image quality as high as cubic scaling, but can be faster.

DPI

Enter the printer output resolution in dots per inch to ensure proper magnification.

Advanced

Click **Advanced** to display a dialog box with the following settings.

Film orientation

Select PORTRAIT or LANDSCAPE.

Medium type

Leave blank, or select CLEAR FILM or BLUE FILM to match the print medium.

Border density

Leave blank for no border, or select BLACK or WHITE for the desired border color.

Empty image

Leave blank, or select BLACK or WHITE to match the print medium.

Film destination

Leave blank, or select Magazine, Processor, or Bin_1 through Bin_5 (for sorters).

Smoothing

Enabled when Magnification is set to Cubic or Bilinear. Select SHARP, SMOOTH, or MEDIUM to control the amount of smoothing.

Trim

Specifies whether to print a trim box around the film. Leave blank to use the printer's default setting, select YES to include the trim box, or NO to omit the trim box regardless of the printer's default setting.

Lookup

Enter the settings described below and click **OK**.

Enable Patient Lookup

Select to enable patient information searches.

Enable Last Patient Button

Select to enable patient information searches using the Last Patient button.

Devices

A list of source devices for looking up patient information.

Test

Click to perform a DICOM association test with the selected DICOM device.

Add

Click to add a new DICOM device to the list. See "Adding/Editing Lookup Devices" below.

Edit

Click to edit the selected DICOM device. See "Adding/Editing Lookup Devices" below.

Remove

Click to remove the selected DICOM device from the list.

Adding/Editing Lookup Devices

A dialog box appears when you click **Add** or **Edit** in the **Lookup** group. Enter the following settings.

AE Title

Enter the DICOM Application Entity title of the device to search.

IP Address

Enter the IP address of the DICOM device to search.

Port

Enter the TCP/IP port of the DICOM device to search.

Date Range

Select a range of dates to search. Select "All" to search all available data.

Future Dates

Select this check box to allow worklist searches that are past the current date.

Protocol

Select the protocol used to search for patient information (DICOM Modality Worklist or DICOM Query/Retrieve).

Study UID

Select the method for assigning study UIDs. DICOM defines a set of images with the same unique study identifier (study UID) as a DICOM study.

Use Existing UID

Use the original study UID received during the lookup.

Create New UID

Create a new UID (usually results in a new study within PACS).

Debug

Select **Enable DICOM Trace** to create detailed logs for debugging DICOM communications.

XDS Settings

XDS Settings

If PACS Scan is licensed for use with XDS repositories, you can enter XDS settings to facilitate sharing of documents between different enterprises. There are two dialog boxes used to enter settings: XDS Fields, and XDS Settings.

XDS Fields

These settings will be sent as metadata each time a document is submitted to any XDS repository or consumer.

1. Click **Settings** > **XDS Fields**.
2. Enter the settings described below and click **OK**.

> **Note:** The codes entered into the XDS fields must also exist in the XDS repository or the transmission will fail.

XDS Field Settings

Content Type

Select the type of clinical activity associated with the document.

Class Code

Similar to the content type, but is associated with the type of document rather than activity.

Type Code

A continuation of the class code, providing more detail.

Confidentiality Code

Indicates the sensitivity of the data contained in the document.

Facility Type Code

The type of clinical facility and/or department within the facility.

Practice Code

Refers to the clinical specialty associated with the document creation.

Format Code

Provides more detail on the document origin and type.

Entering XDS Settings

In general, these settings configure PACS Scan to work and communicate with the XDS repository.

1. Click **Settings** > **XDS Settings**.
2. In the **XDS settings** dialog box, enter the settings described below and click **OK**.

XDS Settings

Source ID

A number that identifies PACS Scan as the source of the document to the registry. PACS Scan enters this value automatically.

Repository Settings

Name

The name of the repository.

URL

The URL of the repository.

Lookup

Enable Patient Lookup

Select to enable the Lookup button in the **Enter Patient Information** dialog box. This setting only applies when an XDS destination is selected.

PDQ Server

Select one of the following server types to handle patient lookup queries.

V2 (HL7)

Address

Enter the address of the server.

Port

Enter the port of the server.

V3 (Web Service)

URL

Enter the URL of the server.

Affinity ID

Enter the affinity ID for the selected server.

Resolve Patient ID

Enable Patient ID Resolution

Select if using a PIX server to resolve the local MRN with the global MRN. Data sent to the repository will be identified by the global MRN.

PIX Server

V2 (HL7)

Address

Enter the address of the server.

Port

Enter the port of the server.

V3 (Web Service)

URL

Enter the URL of the server.

Affinity ID

Enter the affinity ID of the PIX server in one of the following formats.

PDQ V2

IHERED|1.3.6.1.4.1.21367.13.20.1000|&ISO

PIX V2

`IHERED&1.3.6.1.4.1.21367.13.20.1000&ISO`

PIX/PDQ V3

`1.3.6.1.4.1.21367.13.20.1000`

Debug

Enable XDS Logging

Select to log XDS events for debugging purposes.

Entering XDS Fingerprint Settings

For cases in which an institution provides a local certificate for access to devices such as XDS, you can configure PACS Scan so that services can authenticate it by using the SHA1 fingerprint of the X.509 certificate. To configure PACS Scan for these cases, complete the following steps.

1. In Windows, click **Start**.
2. In the **Search** box, type `certmgr.msc`, and then press **Enter**.
3. In the left pane, open the **Personal** folder tree, and then click **Certificates**.
4. In the menu bar, click **Action** > **All Tasks** > **Import**, and then follow the prompts to import your certificate.
5. Navigate to the certificate you imported, and then double-click it.
6. In the **Certificate** dialog box, click the **Details** tab.
7. In the **Field** column, click **Thumbprint**, and then copy all of the values in the lower pane.
8. Open the following file in Windows Notepad or another text editor. *{PACS Scan installation folder}\config\xdssettings.xml*
9. Paste the values you copied above into the **CertificateFingerPrint** section of the xdssettings file.
10. Save the file and exit the text editor.

Entering ATNA Settings

Audit Trail and Node Authentication (ATNA) Integration Profile establishes security measures to provide patient information confidentiality, data integrity and user accountability. To configure ATNA settings in PacsScan, complete the following steps.

1. Open the following file in Windows Notepad or another text editor. *{PACS Scan installation folder}\config\xdssettings.xml*
2. To enable ATNA, type the IP address and port number into the **AtnaServer** and **AtnaPort** sections.
3. To enable User Datagram Protocol (UDP), type `TRUE` into the **AtnaUDP** section.
4. To enable Transport Layer Security (TLS) transactions, paste the SHAQ1 fingerprint value you copied in the *Entering XDS Fingerprints Settings section* above, into the **AtnaCertificateFingerPrint** section.
5. An alternate way to set up a certificate is to type the full path to the certificate into the **AtnaCertPath** section, type the certificate's password into the **AtnaCertPassword** section, and then type the currently used TLS version number into the **AtnaTLSVersion** section.
6. Save the file and exit the text editor.

Import Settings

Import Settings

These settings assign default folders used for importing images.

1. Click **Settings** > **Import**.
2. Enter the following settings and click **OK**.

Import Path

You can specify the default folder for the import Browse dialog box.

Remember Last Folder

If the user changes the default folder in the import Browse dialog box, the new folder will be assigned as the default folder (it will appear the next time the user opens the thumbnail selection dialog box).

Always Start at This Location

Enter a path to a folder, or click **Browse** to select one. The folder selected here will be the default folder in the thumbnail selection dialog box.

Image Folder

Type a folder name or click **Browse** and select a folder to be used as the default folder for placing graphic images (on forms, etc.) This box is synchronized with the Image Folder box in the Form Settings dialog box.

Virtual Printer Settings

Virtual Printer Settings

1. Click **Settings** > **Virtual Printer Settings**.
2. Enter the settings described below, then click **OK**.

Downsample Resolution

Select a downsample resolution to reduce the size of incoming images as needed.

Window/Level

Convert color to grayscale

Select to convert color images to grayscale.

Grayscale Settings

Enter specific Window and Level settings for the resultant grayscale image if desired.

Settings

Auto invert

Select to automatically invert incoming images.

Always append new pages to current patient

Select to use the current patient information for every incoming image. If this check box is not selected, PACS Scan prompts you for patient information each time you print.

Users

Users

To modify settings related to users:

1. Click **Settings** > **Users**.
2. Enter the settings described below and click **OK**.

Active Directory

Use Active Directory

Select to verify all PACS Scan logons using an Active Directory/LDAP server.

Server

Enter the name or IP address of the Active Directory/LDAP server.

Domain

Enter the Active Directory/LDAP domain name or IP address.

PACS Scan Administrators

One or more users can be assigned administrator rights. Use the buttons to add or delete administrators, or to test administrator rights.

Using LDAP User Groups

To configure PACS Scan to support LDAP user groups, complete the following steps.

1. Click **Settings** > **Manage Users**. The system opens the **Manage Users** dialog box.
2. Select **Use Active Directory**.
3. In the **Server** and **Domain** fields, enter the addresses for the Active Directory server.
4. Click **Add Group**. The system opens the **Add/Edit Group** dialog box.
5. In the **Name** field, enter a name for the new group.
6. In the **Role for the Group** list, select **Admin** or **User**.
7. Click **OK**, and then click **OK** again.

Local Users

Require User Login

Select to verify all login attempts using the local user list.

User name

Use the buttons to add, edit, or delete local users.

Enable Auto Logout

Select the **Enable** check box to force a log off if the program remains idle for the specified number of minutes.

Defaults

Defaults

You can edit the default settings used by PACS Scan.

1. Click **Settings** > **Defaults** to open the **Defaults** dialog box.
2. Enter the settings described below and click **OK**.

Site Information

Institution

Enter the institution name to appear in each document or film. The information will appear in the DICOM Institution Name field (0008, 0080).

Department

Enter the department name to appear in each film or document. The information will appear in the DICOM Institution Department Name field (0008, 1040).

Station

Enter the station name to appear in each document or film. The information will appear in the DICOM Station Name field (0008, 1010).

Character Set

Select the character set for all text entry operations in PACS Scan.

Device Information

Manufacturer

Enter the manufacturer to appear in each document or film. The information will appear in the DICOM Device Manufacturer field (0018, 1016).

Model

Enter the model name to appear in each document or film. The information will appear in the DICOM Device Model Name field (0018, 1018).

Serial no.

Enter the serial number to appear in each document or film. The information will appear in the DICOM Serial Number field (0018, 1000).

Version

Enter the version number to appear in each document or film. The information will appear in the DICOM Software Version field (0018, 0020). The current version of PACS Scan is the factory default.

Defaults

Modality

Select the default modality in the Enter Patient Information dialog box.

Series no.

Enter the series number for scanned documents. If the Series Number field is blank, it will be blank for all scanned documents.

Cursor Location

Select the initial location of the cursor on the Enter Patient Information dialog box.

Local Modalities

You can customize the modality list by adding or deleting modalities. Enter a modality name in the Modality box and click Add. Or, select a modality and click Delete. The contents of the local modalities box will be displayed in the Enter Patient Information dialog box.

Description Field

Create Description List

Select to add a user-defined list of study descriptions in the Descriptions field of the Enter Patient Information dialog box.

Require Description

Select to force users to select a description when entering patient information.

New Description

To add an item to the user-defined list of study descriptions, enter an item in the New Description box and click Add. To edit an existing item, select the item and click Edit. To delete an item, select it and click Delete. To set one of the items as the default, select the item and click Default.

Custom Fields

Create Custom Fields

Select to add up to two custom fields to the Enter Patient Information dialog box. Enter information in the Label, Group, and Element boxes as needed. The new fields will appear under the Description field.

Require either Patient Name, MRN, or Accession Number for Lookup

Select to require the information before a lookup is allowed to proceed. This option limits search flexibility, but can help to improve accuracy of results.

Fields

Fields

PACS Scan lets you customize the fields used for entering patient information.

Procedure

1. Click **Settings** > **Fields**.
2. Adjust the settings described below and click **OK**.

Field Settings

Fill from Worklist

Select to auto-fill the field from a DICOM worklist or archive search.

Trigger Lookup

Select to trigger a lookup when either a barcode entry occurs or the Enter key is pressed in that field. Note that even when this check box is cleared, you can trigger a lookup by clicking the Lookup button.

Next Field

Defines the field that becomes active after the current field when you press tab.

To Do List

You can create a "To Do" list of studies to be scanned or processed. If the current scan is taking a long time to finish, for example, you can add additional studies to the list while you are waiting.

Procedure

1. To display the To Do list, click **Settings** > **Enable To Do List**.
2. Click **Add** to open the **Enter Patient Information** dialog box.
3. Enter or look up the patient information, then click **Continue**.

   The study is added to the To Do list. To remove a study, select it and click **Delete**.

Buttons

The PACS Scan main screen contains buttons for commonly used functions. You can change which buttons appear using the Buttons dialog box.

1. Click **Settings** > **Buttons**.

Settings

Left Button

Selects the button to display on the upper left.

Right Button

Selects the button to display on the upper right.

Lower Left Button

Selects the button to display on the lower left.

Lower Right Button

Selects the button to display on the lower right.

TWAIN Icon

Scanner/Camera

Selects the icon to use for the TWAIN device.

View logs and DICOM trace

You can search for and view application and audit logs using a separate utility called the PACS Scan Log Viewer. Use the following procedure to open the viewer utility.

1. Click **Start** > **All Programs** > **Pacsgear** > **PACS Scan** > **Log Viewer**.
2. On the Error/Audit tab, in the left pane, click a log title.

   Log entries appear in the lower panel. You can click an entry to display its details in the upper right panel.

3. Optional. To export the log to a CSV file for viewing and editing in other programs such as Microsoft Excel, click **Export to CSV**.

DICOM Trace Files tab

The DICOM Trace Files tab is primarily used by service personnel for troubleshooting purposes. On the tab you can view, copy, and save DICOM trace and raw capture data. Data is only available if you select the Enable DICOM Trace check box in the DICOM Settings dialog box, or the Capture Raw Bytes check box in other programs.

Expected lifetime

PACS Scan service support life is by its version per Hyland's Terms and Conditions agreement for "Retired Software." Which means: (i) any version of the Software licensed by Customer from Hyland under the License Agreement, identified as being retired on Hyland's applicable secure end user web site; and (ii) any version of the Software other than the then-current version and the immediately preceding version.

Preventative maintenance and cleaning

There are no cleaning requirements for PACS Scan software. License and maintenance may include upgrades from previous versions, security patches and updates, which are handle through technical support and solutions provided via service agreements, licenses, Terms and Conditions, etc. For support visit Hyland Community @community.hyland.com or contact your local account manager for further details.

Safe disposal

Disposal of this product shall be in accordance with all applicable laws and regulations in effect at the locality of the time of disposal.

Follow your local IT Department guidance on safe disposal of software, equipment and accessory products to comply with EU WEEE Directive, FDA HIPAA, EU GDPR privacy and security requirements in connection with personal and health-related data and other applicable local governmental standards and regulations.